3200HS

Installation Guide

NOTE: This product is intended for installation by a professional installer only! Any attempt to install this product by any person other than a trained professional may result in severe damage to a vehicle's electrical system and components.

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N416S 12-02

The Bitwriter® (p/n 998T) requires chip version 1.4 or newer to program this unit.

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Primary Harness (H1) Wire Connection Guide

Primary Harness (H1) Wiring Diagram

The primary harness supplied with this unit is the standard 12-pin harness used by Directed security systems. Two wires in the plug are not used. The upgrade from this unit to a security system would simply require unplugging and exchanging control units and connecting the necessary wires to the vehicle. The functions of all the wires that are used in the primary harness are outlined in the following wiring diagram and the wire connections are described in the wire connection guides.

H1/1	ORANGE	(-) 500 mA Armed Output
H1/2	WHITE	(-) Light Flash Output
H1/3	WHITE/BLUE	(-) 200 mA Channel 3 Validity Output
H1/4	BLACK/WHITE	(-) 200 mA Domelight Supervision Output
H1/5	GREEN	No Function
H1/6	BLUE	(-) 200 mA Second Unlock Output
H1/7	VIOLET	No Function
H1/8	BLACK	(-) Chassis Ground Input
H1/9	YELLOW	Switched Ignition Input
H1/10	BROWN	(-) Horn Honk Output
H1/11	RED	(+) Constant Power Input
H1/12	RED/WHITE	(-) 200 mA Channel 2 Validity Output

Primary Harness Wire Descriptions

H1/1 ORANGE (-) Ground-When-Armed Output

This wire supplies a (-) 500 mA ground as long as the system is armed. This output ceases as soon as the system is disarmed. The orange wire is pre-wired to control the 8618 starter kill relay.

NOTE: if using the H1/1 Orange wire to activate an add-on accessory such as window automation, pager or voice module a 1Amp diode must be installed to ensure proper operation. Insert the diode as shown in the following diagram.

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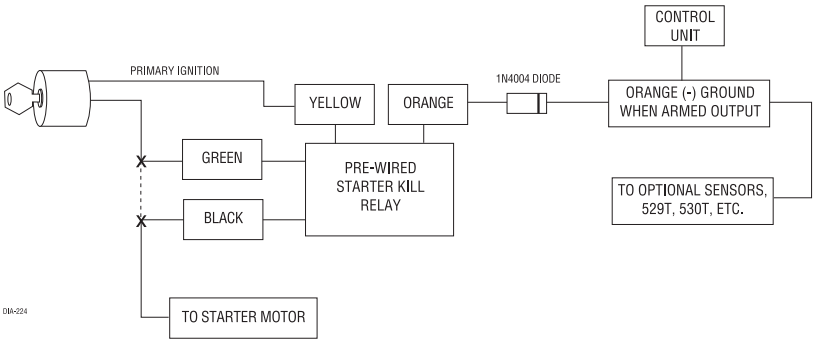
IMPORTANT! Never interrupt any wire other than the starter wire.



H1/2 WHITE (-) Parking Light Output

This wire provides a (-) 200mA output to flash the parking lights. This is suitable for driving (-) light control wires in Toyota, Lexus, BMW, some Mitsubishi, some Mazda, etc. If the vehicle has a positive parking light circuit, a relay must be used to flash the parking lights.

H1/3 WHITE/BLUE (-) Channel 3 Output

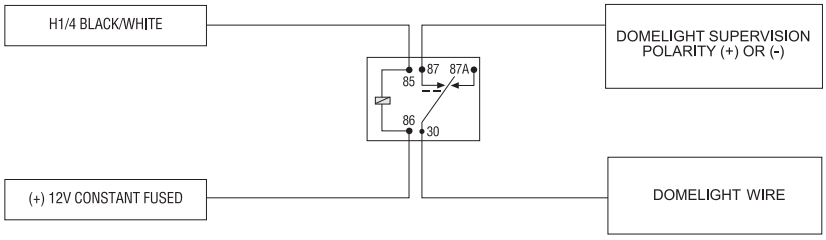
This wire provides a (-) 200 mA output whenever the transmitter code controlling Channel 3 is received. This output will continue as long as that transmission is received. Use for options such as DEI's 551T Valet® Start system, 529T or 530T power window controllers, etc.

IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! The transistorized output can only provide 200 mA of current, and connecting directly to a solenoid, motor, or other high-current device will cause it to fail.

H1/4 BLACK/WHITE (-) 200 mA Domelight Supervision Output

Connect this wire to the optional domelight supervision relay as shown in the following diagram:

IMPORTANT! This output is only intended to drive a relay. It cannot be connected directly to the domelight circuit, as the output cannot support the current draw of one or more bulbs.



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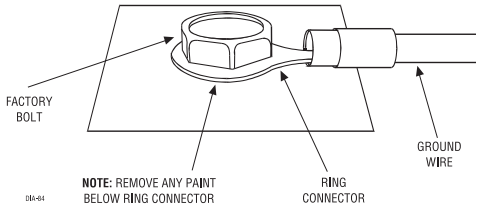
H1/6 BLUE (-) 200 mA Second Unlock Output

The H1/6 BLUE output is used for progressive unlock. A progressive unlock system unlocks the driver's door when the unlock (disarm) button is pressed and unlocks the passenger doors if the unlock (disarm) button is pressed again within 15 seconds after unlocking the driver's door. The BLUE wire outputs a low current (-) pulse on the second press of the unlock button of the transmitter. This negative unlock output is used to unlock the passenger doors.

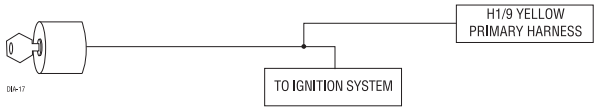
H1/8 BLACK (-) Chassis Ground Connection

Connect this wire to a clean, paint-free sheet metal location (driver kick panel) using a factory bolt that DOES NOT have any vehicle component grounds attached to it. A screw should only be used when in conjunction with a two-sided lock washer. Under dash brackets and door sheet metal are not acceptable ground points. It is recommended that all security components be grounded at the same location.



H1/9 YELLOW (+) Ignition Input

Connect this wire to an ignition source. This input must show (+)12V with the key in run position and during cranking. Make sure that this wire cannot be shorted to the chassis at any point. This wire will trigger the system if the ignition is turned on before the unit is disarmed (doors unlocked with the remote). It will also honk the vehicle's horn and flash the parking lights (if connected).



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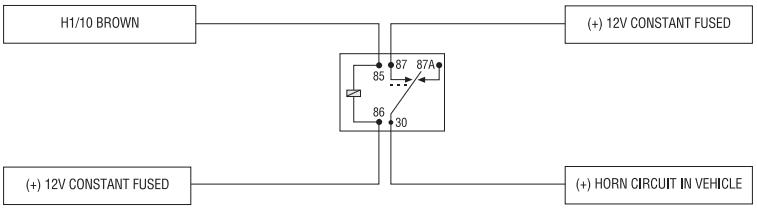
H1/10 BROWN (-) Horn Honk Output

This wire supplies a (-) 200 mA output that can be used to honk the vehicle horn. It outputs a single pulse when locking the doors with the remote, and two pulses when unlocking with the remote. This wire will also output pulses for 30 seconds when the Panic Mode is activated. If the vehicle has a (+) horn circuit, an optional relay can be used to interface with the system, as shown below.



H1/11 RED (+)12V constant power input

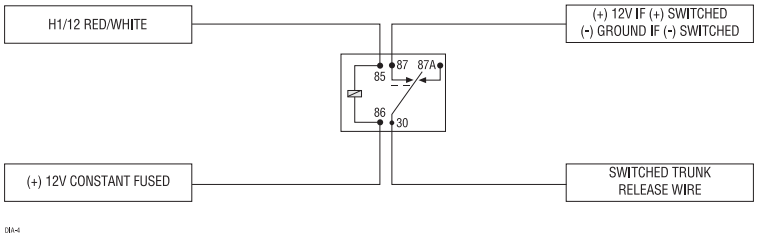
Before connecting this wire, remove the supplied fuse. Connect to the battery positive terminal or the constant 12V supply to the ignition switch.

NOTE: Always use a fuse within 12 inches of the point you obtain (+)12V. Do not use the fuse in the harness for this purpose. This fuse protects the module itself.

H1/12 Red/white channel 2, 200mA (-) output

When the system receives the transmitter code controlling Channel 2 for longer than 1.5 seconds, the red/white wire will supply an output as long as the transmission continues. This is often used to operate a trunk/hatch release or other relay-driven functions.

IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! The transistorized output can only supply 200 mA of current. Connecting directly to a solenoid, motor, or other high-current device will cause it to fail.



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Door Lock Harness (H4), Wire Connection Guide

H4/A	Green	(-) Lock, (+) Unlock Output
H4/B	Empty	Unless Using 451M
H4/C	Blue	(-) Unlock, (+) Lock Output

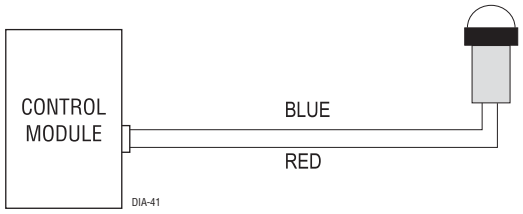
IMPORTANT! The door lock outputs are low current and should not be attached directly to any high current device; they are only to be used to activate relays

NOTE: For detailed instructions about connecting to the vehicle's power door lock systems, refer to the Door Lock Wiring guide (Document No. 1041) available only to authorized dealers though the technical resources listed at the front of this guide.

Peripheral Plug-In Harnesses

Super Bright LED, 2-Pin WHITE Plug

The super bright LED operates at (+) 2 volt DC and plugs into the two-pin WHITE port. Make sure the LED wires are not shorted to ground as the LED will be damaged. Multiple LED's can be used, but they must be wired in series. The LED fits into a 9/32-inch mounting hole. Be sure to check for clearance prior to drilling the mounting hole.



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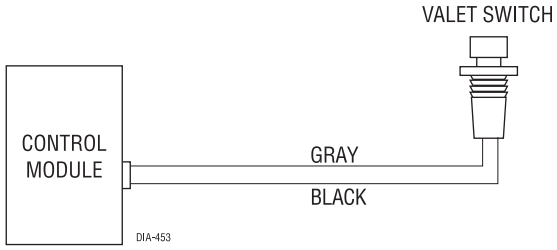
Valet/Program Switch, 2-Pin BLUE Plug

The Valet/Program button should be accessible from the driver's seat. It plugs into the BLUE port on the side of the unit. Consider how the button will be used before choosing a mounting location. Check for rear clearance before drilling a 9/32-inch hole and mounting the button.



Programmer Interface, 3-Pin Port

The BLACK three-pin port is provided for programming of the unit. When using the 998T Bitwriter, it is possible to configure any and all of the programmable functions. For more information please refer to the guide packaged with the programmer.

System Features Learn Routine

The System Features Learn Routine dictates how the unit operates. It is possible to access and change any of the feature settings using the Valet/Program switch. However, this process can be greatly simplified by using the 998T Bitwriter. Any of the settings can be changed and then assigned to a particular transmitter, up to four, a feature called Owner Recognition. Each time that particular transmitter is used to disarm the system, the assigned feature settings will be recalled. Owner Recognition is only possible when programming the unit via the 998T Bitwriter.

If the system was previously programmed using the 998T Bitwriter, the learn routine may be locked. If the horn generates one long honk when attempting to program the unit, the learn routine is locked and must be unlocked using the 998T Bitwriter before proceeding.

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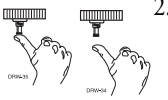
To program the learn routine:

1. **Key.** Turn the ignition on and then back off.



2. **Choose.** Within 10 seconds, press and release the Valet®/Program switch the number of times corresponding to the feature number you want to program. (See Feature Menus.) Once the Valet®/Program switch has been pressed and released the desired number of times, press it once more and hold it. After a second, the LED will flash and the horn will honk to indicate which feature you have accessed.

3. **Transmit.** The transmitter is used to select the desired setting. As shipped, the unit is configured to the LED ON settings. These are the default settings. Pressing the lock button will set it to the LED ON setting. The LED will light solid (stop flashing) to indicate the setting. The horn will honk once (if connected). Pressing the unlock button will change the setting to the LED OFF setting. The LED will go out indicating the change and the horn will honk twice (if connected).

4. Release. The Valet®/Program switch can now be released.

For example, to program the arming mode from active to passive, within 10 seconds of turning the ignition off, and press and release the Valet/Program switch once. Then press it again and hold it. The LED will flash in groups of one and the horn will honk once (if connected). While holding the Valet®/Program switch, press the unlock button. The LED will stop flashing and go out. The horn will honk twice if connected. Passive arming is now programmed. If that was not the desired setting, without releasing the Valet®/Program switch, press the lock button. The LED will light solid and the horn will honk once if connected. Active arming is now programmed. Release the Valet®/Program switch after the selection has been made.

You can advance from feature to feature by pressing and releasing the Valet®/Program switch the number of times necessary to get from the feature you just programmed to the feature you wish to access. For example, if you just programmed Feature 2 and you next want to program Feature 3 to off, release the Valet/Program switch. Press and release it once to advance from Feature 2 to Feature 3. Then press it once more and hold it. The LED will flash in groups of three and the horn will honk three times (if connected) to confirm that you have accessed Feature 3.

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The learn routine will be exited if:

➤ The ignition is turned on.

➤ The Valet/Program switch is pressed too many times.

➤ More than 15 seconds elapses between programming steps.

One long horn honk (if connected) indicates that the Learn Routine has been exited.

System Features Menus

Feature Number	Default LED ON Setting (Press Channel 1)	LED OFF Setting (Press Channel 2)
1	Active arming	Passive arming
2	Chirps ON	Chirps OFF
3	Ignition-controlled door lock ON	Ignition-controlled door lock OFF
4	Ignition-controlled door unlock ON	Ignition-controlled door unlock OFF
5	Active locking	Passive locking
6	Ignition-controlled domelight ON	Ignition-controlled domelight OFF
7	0.8 second door lock pulses	3.5 second door lock pulses
8	Double pulse unlock OFF	Double pulse unlock ON
9	Security features ON	Security features OFF
10	Code Hopping ON	Code Hopping OFF

Feature Descriptions

The features of the system are described below. Features that have additional settings that can be selected only when programming with the 998T Bitwriter are indicated by the following icon:

1 ACTIVE/PASSIVE ARMING: When active arming is selected, the starter kill will arm (if connected) only when the transmitter is used. When set to passive arming, the starter kill will arm (if connected) 30 seconds after the ignition key is turned off.

2 CHIRPS ON/OFF: This feature controls the chirps that confirm arming and disarming of the system. A siren or horn must be connected to the H1/10 BROWN wire.

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3 IGNITION CONTROLLED DOOR LOCK ON/OFF: When turned on, the doors will lock three seconds after the ignition is turned on.

4 *IGNITION CONTROLLED DOOR UNLOCK ON/OFF:* When turned on, the doors will unlock when the ignition is turned off.

5 ACTIVE/PASSIVE LOCKING: If passive arming is selected in Feature 1, then the system can be programmed to either lock the doors when passive arming occurs, or only lock the doors when the system is armed with a transmitter. Active locking means the doors will not lock when the system passively arms. Passive locking means that the doors will lock whenever the system passively arms the starter kill (if connected).

6 IGNITION CONTROLLED DOMELIGHT: If turned on, the system will turn on the domelight for 30 seconds when the ignition is turned off. The domelight supervision output (H1/4) wire must be connected to an optional relay as described in the Primary Harness Wire Connection Guide.

7 DOOR LOCK PULSE DURATION: Some European vehicles, such as Mercedes-Benz and Audi, require longer lock and unlock pulses to operate the vacuum pump. Programming the system to provide 3.5 second pulses will accommodate the door lock interface in these vehicles. The default setting is 0.8 second door lock pulses.

8 DOUBLE PULSE UNLOCK OFF/ON: Some vehicles require two pulses on a single wire to unlock the doors. When the double pulse unlock feature is turned on, the BLUE H4/C wire will supply two negative pulses instead of a single pulse. At the same time, the GREEN H4/A wire will supply two positive pulses instead of a single pulse. This makes it possible to directly interface with double pulse vehicles without any extra parts.

9 SECURITY FEATURES ON/OFF: In the ON setting the (-) ground-when-armed output will be active and can be used to operate starter kill. The unit will also trigger a panic sequence if the ignition is turned on before disarming the system. Turning the security features off will turn off both the starter kill feature and the triggered sequence with ignition.

10 CODE-HOPPING ON/OFF: The system features Code-Hopping as an option. To use Code-Hopping technology, this feature must be programmed on.

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Transmitter/Receiver Learn Routine

The system comes with two transmitters that have been taught to the receiver. The receiver can store up to four different transmitter codes in memory. Use the following learn routine to add transmitters to the system or to change button assignments if desired.

If the system was previously programmed using the 998T Bitwriter, the learn routine may be locked. If the horn generates one long honk when attempting to program the unit, the learn routine is locked and must be unlocked using the 998T Bitwriter before proceeding.

1. **Key.** Turn the key to the ON position.

2. **Choose.** Within 10 seconds, press and release the Valet/program switch the number of times corresponding to the desired channel listed below. Once you have selected the channel, press the switch once more and HOLD it. The LED will flash and the horn will honk (if connected) to confirm the selected channel. Do not release the Valet/program switch.

3. **Transmit.** While holding the Valet/Program button, press the button from the transmitter that you wish to assign to the selected channel. The unit will chirp indicating successful programming. It is not possible to teach a transmitter button to the system more than once.

4. **Release.** Once the code is learned, the Valet/Program button can be released.

Channel Number	Function	Wire Color
1	Arm/Disarm/Panic	
2	Silent Mode/Remote Valet/Trunk Release	RED/WHITE
3	Remote Start or Other Accessory	WHITE/BLUE
4	Arm only	
5	Disarm only	
6	Panic only	
7	Auto-learn Standard Configuration*	
8	Auto-learn Single Button Arm/Disarm Configuration*	
9	Delete all transmitters	

*NOTE: For Auto Learn Configurations, see *Transmitter Configurations* section of this guide.

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Channels #4-6: Channels 4 through 6 are used to assign the arm, disarm and panic functions to separate buttons on the remote control. Teaching a button to Channel 4 erases all information about that remote from memory. Any auxiliary functions that are desired will have to be reprogrammed. Similarly, if the remote is set up to use the separate arm, disarm and panic channels and a button from that remote is entered into channel one, the remote will be erased from memory, and the system will only recognize the button that was entered into Channel 1.

Channel #9: If any button from a known transmitter is programmed to Channel 9, all transmitters will be erased from memory and the system features will revert to the default settings. This is useful in cases where the one of the customer's transmitters is lost or stolen. This will erase any lost or stolen transmitters from the system's memory. It can also be used to start from scratch if the transmitter buttons were programmed incorrectly.

To exit the learn routine:
One long horn honk indicates that Learn Routine has been exited.

- Ignition is turned off.
- Valet/Program button is pressed too many times.
- More than 15 seconds elapse between steps.

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Transmitter Configurations

The transmitters can be programmed with the standard or single button arm/disarm configurations by using the Auto Learn functions in the Transmitter/Receiver Learn Routine.

Standard Configuration

A remote that uses the standard configuration operates similarly to many factory keyless entry remotes. A standard configuration transmitter allows arming, disarming, and Panic Mode activation with separate buttons. When programmed for standard configuration using the Channel 7 Auto-learn configuration, the transmitter buttons are assigned to the following functions:

	operates	Arm only
	operates	Disarm only
	operates	Channel 2 and Silent Mode
	operates	Panic only
and	operate	Channel 3

Single Button Arm/Disarm Configuration

When programmed for single button arm/disarm configuration using the Channel 8 Auto-learn configuration, the transmitter buttons are assigned to the following functions:

	operates	Arm/Disarm/Panic
	operates	Channel 2 and Silent Mode
and	operate	Channel 3

Rapid Resume Logic

Rapid Resume Logic ensures that the when the system is powered up it will return to the same state it was in when power is disconnected. For a full description of Rapid Resume Logic refer to the owner's manual.

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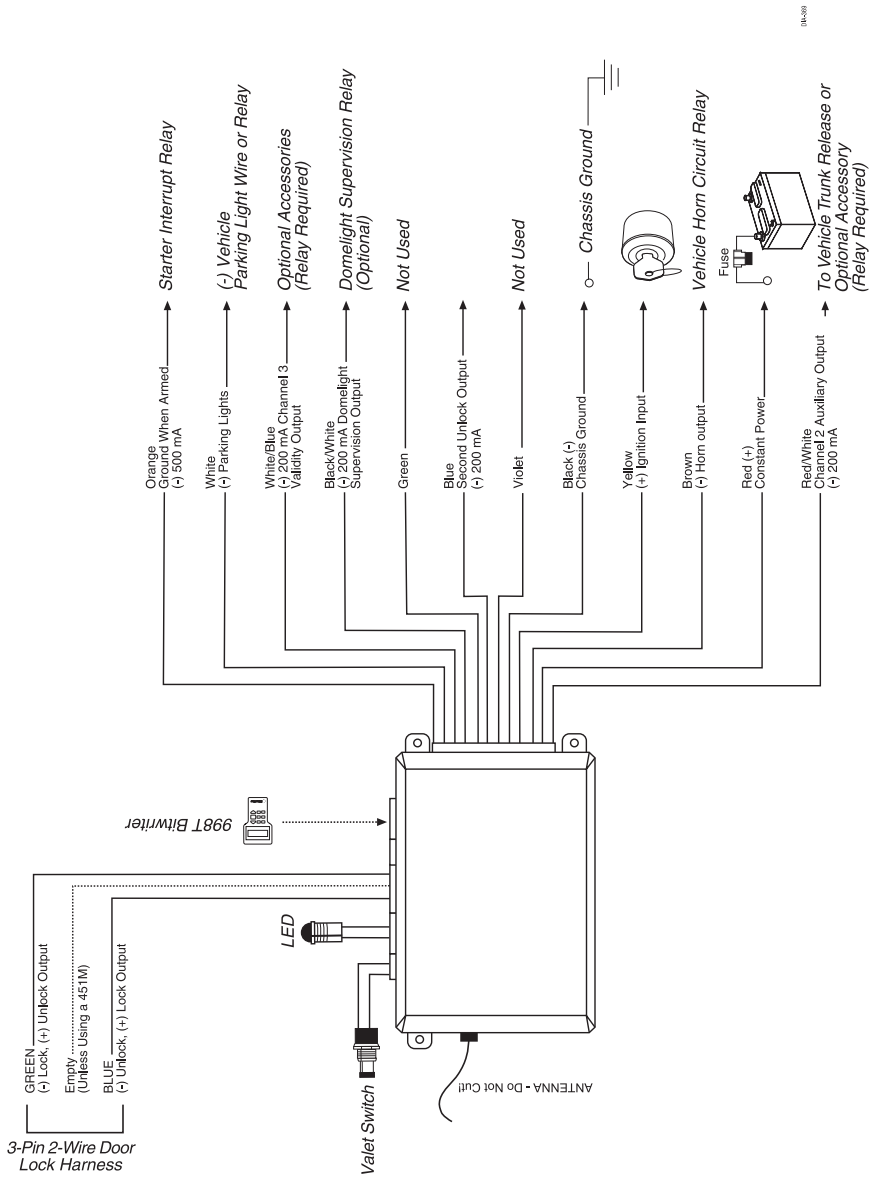
Wiring Quick Reference Guide


Starter Interrupt Relay
(-) Vehicle Parking Light Wire or Relay
Optional Accessories (Relay Required)
Domelight Supervision Relay (Optional)
Not Used
Not Used
Chassis Ground
Vehicle Horn Circuit Relay
To Vehicle Trunk Release or Optional Accessory (Relay Required)
Fuse
Orange Ground When Armed (-) 500 mA
White (-) Parking Lights
White/Blue (-) 200 mA Channel 3 Validity Output
Black/White (-) 200 mA Domelight Supervision Output
Green
Blue Second Unlock Output (-) 200 mA
Violet
Black (-) Chassis Ground
Yellow (+) Ignition Input
Brown (-) Horn output
Red (+) Constant Power
Red/White Channel 2 Auxiliary Output (-) 200 mA
9987T Bitwriter
LED
Valet Switch
ANTENNA - Do Not Cut!
GREEN (-) Lock, (+) Unlock Output
Empty (Unless Using a 451M)
BLUE (-) Unlock, (+) Lock Output
3-Pin 2-Wire Door Lock Harness

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